

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

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Applicant(s): Mark T. Marshall et al.	) Art Unit:
Serial No.:	)
	) Examiner:
	)
Filed: Herewith	) Docket: P-20093.00

For: NOVEL IMPLANTABLE LEAD INCLUDING SENSOR

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**INFORMATION DISCLOSURE STATEMENT**

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Dear Sir:

In compliance with the duty imposed by 37 C.F.R. § 1.56, and in accordance with C.F.R. §§ 1.97 *et. seq.*, the materials enclosed herewith are brought to the attention of the Examiner as possibly being of interest in connection with the above-identified patent application. The majority of the materials enclosed are the result of a [[comprehensive]] patent database search for matters generally related to sensors[[]; the search was conducted by Medtronic personnel in early 2001]].

Consideration of each of the documents listed on the attached Form 1449 is respectfully requested. Pursuant to the provisions of M.P.E.P. §609, Applicant further requests that a copy of the Form 1449, marked as being considered and initialed by the Examiner, be returned with the next Official Communication.

Respectfully submitted,

Date: 01/16/04

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<b>FORM PTO-1449</b>  U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE  INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Use several sheets if necessary)	ATTY. DOCKET NO.:  P20093.00	SERIAL NO.:
	APPLICANT: Mark T. Marshall et al.	
	FILING DATE: Herewith	GROUP:

## U.S. PATENT DOCUMENTS

EXAMINER INITIAL		DOCUMENT NUMBER	DATE ISSUED	INVENTOR NAME	U.S. CLASS	U.S. SUB- CLASS	FILING DATE IF APPROPRIATE
	AA	6,163,723	12/19/00	Roberts et al.			
	AB	6,070,103	05/30/00	Ogden			
	AC	6,038,480	03/14/00	Hrdlicka et al.			
	AD	6,038,475	03/14/00	Sikorski et al.			
	AE	6,025,670	02/15/00	Corl et al.			
	AF	6,024,704	02/15/00	Meador et al.			
	AG	6,017,313	01/25/00	Bratteli et al.			
	AH	6,002,963	12/14/99	Mouchawar et al.			
	AI	5,999,848	12/07/99	Gord et al.			
	AJ	5,995,860	11/30/99	Sun et al.			
	AK	5,986,497	11/16/99	Tsugai			
	AL	5,985,129	11/15/99	Gough et al.			
	AM	5,977,803	11/02/99	Tsugai			
	AN	5,977,431	11/02/99	Knapp et al.			
	AO	5,957,957	09/28/99	Sheldon			
	AP	5,954,752	09/21/99	Mongeon et al.			
	AQ	5,936,520	08/10/99	Luitje et al.			
	AR	5,935,081	08/10/99	Kadhiresan			
	AS	5,928,344	07/27/99	Stierli			
	AT	5,918,110	06/29/99	Abraham-Fuchs et al.			

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Initial if citation considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

	AU	5,917,346	06/29/99	Gord			
	AV	5,911,738	06/15/99	Sikorski et al.			
	AW	5,902,326	05/11/99	Lessar et al.			
	AX	5,899,927	05/04/99	Ecker et al.			
	AY	5,885,471	03/23/99	Ruben et al.			
	AZ	5,843,135	12/01/98	Weijand et al.			
	BA	5,836,987	11/17/98	Baumann et al.			
	BB	5,812,802	09/22/89	Bahout et al.			
	BC	5,810,735	09/22/98	Halperin et al.			
	BD	5,797,395	08/25/98	Martin			
	BE	5,792,195	08/11/98	Carlson et al.			
	BF	5,791,344	08/11/98	Schulman et al.			
	BG	5,785,657	07/28/98	Breyer et al.			
	BH	5,782,883	07/21/98	Kroll et al.			
	BI	5,773,270	06/30/98	D'Orazio et al.			
	BJ	5,751,154	05/12/98	Tsugai			
	BK	5,741,211	04/21/98	Renirie et al.			
	BL	5,740,596	04/21/98	Corl et al.			
	BM	5,735,883	04/07/98	Paul et al.			
	BN	5,725,562	03/10/98	Sheldon			
	BO	5,722,998	03/03/98	Prutchi et al.			
	BP	5,722,996	03/03/98	Bonnet et al.			
	BQ	5,715,827	02/10/98	Corl et al.			
	BR	5,702,427	12/30/97	Ecker et al.			
	BS	5,701,895	12/30/97	Prutchi et al.			
	BT	5,700,283	12/23/97	Salo			
	BU	5,697,958	12/16/97	Paul et al.			
	BV	5,693,075	12/02/97	Plicchi et al.			
	BW	5,684,451	11/14/97	Seberger et al.			
	BX	5,628,777	05/13/97	Moberg et al.			

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	BY	5,593,430	01/14/97	Renger			
	BZ	5,569,883	10/29/96	Walter et al.			
	CA	5,564,434	10/15/96	Halperin et al.			
	CB	5,549,652	08/27/96	McClure et al.			
	CC	5,535,752	07/16/96	Halperin et al.			
	CD	5,518,001	05/21/96	Snell			
	CE	5,507,737	04/16/96	Palmskog			
	CF	5,499,627	03/19/96	Steuer et al.			
	CG	5,497,772	12/12/96	Schulman et al.			
	CH	5,496,361	03/05/96	Moberg et al.			
	CI	5,490,323	02/13/96	Thacker et al.			
	CJ	5,488,307	01/30/96	Plott			
	CK	5,474,754	12/12/95	Saxton et al.			
	CL	5,470,348	11/28/95	Neubauer et al.			
	CM	5,454,838	10/03/95	Vallana et al.			
	CN	5,451,940	09/19/95	Schneider et al.			
	CO	5,438,987	08/08/95	Thacker et al.			
	CP	5,431,172	07/11/95	Hoegnelid et al.			
	CQ	5,423,869	06/13/95	Poore et al.			
	CR	5,417,717	05/23/95	Salo et al.			
	CS	5,411,532	05/02/95	Mortazavi			
	CT	5,409,009	04/25/95	Olson			
	CU	5,394,400	02/28/95	Phoy			
	CV	5,391,190	02/21/95	Pederson et al.			
	CW	5,368,040	11/29/94	Carney			
	CX	5,365,930	11/22/94	Takashima et al.			
	CY	5,358,514	10/25/94	Schulman et al.			
	CZ	5,353,800	10/11/94	Pohndorf et al.			
	DA	5,342,404	08/30/94	Alt et al.			
	DB	5,336,253	08/09/94	Gordon et al.			

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	DC	5,336,243	08/09/94	Shaldach			
	DD	5,330,505	07/19/94	Cohen			
	DE	5,325,870	07/05/94	Kroll et al.			
	DF	5,324,326	06/28/94	Lubin			
	DG	5,324,316	06/28/94	Schulman et al.			
	DH	5,316,001	05/31/94	Ferek-Petric et al.			
	DI	5,304,208	04/19/94	Inguaggiato et al.			
	DJ	5,293,879	03/15/94	Vonk et al.			
	DK	5,282,839	02/01/94	Roline et al.			
	DL	5,275,171	01/04/94	Barcel			
	DM	5,267,564	12/07/93	Barcel et al.			
	DN	5,265,615	11/30/93	Frank et al.			
	DO	5,261,401	11/15/93	Baker et al.			
	DP	5,243,976	09/14/93	Ferek-Petric et al.			
	DQ	5,228,176	07/20/93	Bui et al.			
	DR	5,207,103	05/04/93	Wise et al.			
	DS	5,205,286	04/27/93	Soukup et al.			
	DT	5,186,169	02/16/93	Shaldach			
	DU	5,184,614	02/09/93	Collins et al.			
	DV	5,174,303	12/29/92	Schroepel			
	DW	5,166,678	11/24/92	Warrior			
	DX	5,156,157	10/20/92	Valenta, Jr. et al.			
	DY	5,129,394	07/14/92	Mehra			
	DZ	5,113,868	05/19/92	Wise et al.			
	EA	5,113,859	05/19/92	Funke			
	EB	5,109,850	05/05/92	Blanco et al.			
	EC	5,105,810	04/21/92	Collins et al.			
	ED	5,097,831	03/24/92	Lekholm			
	EE	5,087,243	02/11/92	Avital			
	EF	5,085,213	02/04/92	Cohen			

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	EG	5,076,271	12/31/91	Lekholm et al.			
	EH	5,065,759	11/19/91	Begemann et al.			
	EI	5,058,586	10/22/91	Heinze			
	EJ	5,040,538	08/20/91	Mortazavi et al.			
	EK	5,040,536	08/20/91	Riff			
	EL	5,025,786	06/25/91	Siegel			
	EM	5,021,777	06/04/91	Gross et al.			
	EN	5,016,631	05/21/91	Hogrefe			
	EO	5,003,976	04/02/91	Alt			
	EP	4,986,270	01/22/91	Cohen			
	EQ	4,984,572	01/15/91	Cohen			
	ER	4,967,755	11/06/90	Pohndorf			
	ES	4,967,748	11/06/90	Cohen			
	ET	4,947,854	08/14/90	Rabinovitz et al.			
	EU	4,941,473	07/17/90	Tenerz et al.			
	EV	4,941,472	07/17/90	Moden et al.			
	EW	4,936,304	06/26/90	Kresh et al.			
	EX	4,926,875	05/22/90	Rabinovitz et al.			
	EY	4,907,022	03/06/90	Myers			
	EZ	4,903,701	02/27/90	Moore et al.			
	FA	4,886,064	12/12/89	Strandberg			
	FB	4,881,410	11/21/89	Wise et al.			
	FC	4,877,032	10/31/89	Heinze et al.			
	FD	4,873,980	10/17/89	Shaldach			
	FE	4,867,163	09/19/89	Shaldach			
	FF	4,867,162	09/19/89	Shaldach			
	FG	4,867,161	09/19/89	Shaldach			
	FH	4,860,751	08/29/89	Callaghan			
	FI	4,858,615	08/22/89	Meinema			
	FJ	4,846,191	07/11/89	Brockway et al.			

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	FK	4,841,981	06/27/89	Tanabe et al.			
	FL	4,827,933	05/09/89	Koning et al.			
	FM	4,821,735	04/18/89	Goor et al.			
	FN	4,815,469	03/28/89	Cohen et al.			
	FO	4,813,421	03/21/89	Baudino et al.			
	FP	4,808,994	02/28/89	Riley			
	FQ	4,807,629	02/28/89	Baudino et al.			
	FR	4,802,481	02/07/89	Schroeppel			
	FS	4,794,372	12/27/88	Kazahaya			
	FT	4,791,935	12/28/88	Baudino et al.			
	FU	4,787,389	11/29/88	Tarjan			
	FV	4,779,199	10/18/88	Yoneda et al.			
	FW	4,750,495	06/14/88	Moore et al.			
	FX	4,745,596	05/17/88	Sato			
	FY	4,738,267	04/19/88	Lazorthes et al.			
	FZ	4,730,619	03/15/88	Koning et al.			
	GA	4,730,389	03/15/88	Baudino et al.			
	GB	4,722,342	02/02/88	Amundson			
	GC	4,716,887	01/05/88	Koning et al.			
	GD	4,712,555	12/15/87	Thornander et al.			
	GE	4,708,143	11/24/87	Schroeppel			
	GF	4,671,288	06/09/87	Gough			
	GG	4,628,934	12/16/86	Pohndorf et al.			
	GH	4,600,017	07/15/86	Schroeppel			
	GI	4,592,364	06/03/86	Pinto			
	GJ	4,566,456	01/28/86	Koning et al.			
	GK	4,543,955	10/01/85	Schroeppel			
	GL	4,539,992	09/10/85	Calfee et al.			
	GM	4,538,262	08/27/85	Sinniger et al.			
	GN	4,535,401	08/13/85	Penn			

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	GO	4,534,025	08/06/86	Floyd			
	GP	4,519,401	05/28/85	Ko et al.			
	GQ	4,494,950	01/22/85	Fischell			
	GR	4,485,813	12/04/84	Anderson et al.			
	GS	4,467,807	08/28/84	Bornzin			
	GT	4,432,372	02/21/84	Monroe			
	GU	4,422,066	12/20/83	Belcourt et al.			
	GV	4,420,753	12/13/83	Meyer-Ebrecht et al.			
	GW	4,417,306	11/22/83	Citron et al.			
	GX	4,413,250	11/01/83	Porter et al.			
	GY	4,407,296	10/04/83	Anderson			
	GZ	4,399,820	08/23/83	Wirtzfeld et al.			
	HA	4,364,397	12/21/82	Citron et al.			
	HB	4,360,030	11/23/82	Citron et al.			
	HC	4,311,986	01/19/82	Yee			
	HD	4,293,947	10/06/81	Brittain			
	HE	4,272,758	06/09/81	Giraud			
	HF	4,266,554	05/12/81	Hamaguri			
	HG	4,265,252	05/05/81	Chubbuck et al.			
	HH	4,227,181	10/07/80	Brittain			
	HI	4,211,238	07/08/80	Shu et al.			
	HJ	4,202,339	05/13/80	Wirtzfeld et al.			
	HK	4,139,737	02/13/79	Shinada et al.			
	HL	4,137,910	02/06/79	Murphy			
	HM	4,127,845	11/28/78	Dansbach et al.			
	HN	4,114,606	09/19/78	Seylar			
	HO	4,103,337	07/25/78	Whiteside			
	HP	4,093,946	06/06/78	Fowler			
	HQ	4,077,030	02/28/78	Helava			
	HR	4,063,220	12/13/77	Metcalfe et al.			
	HS	4,023,562	05/17/77	Hynecek et al.			
	HT	4,016,480	04/05/77	Hofmann			

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	HU	3,959,772	05/25/76	Wakasa et al.			
	HV	3,958,558	05/25/76	Dunphy et al.			
	HW	3,942,536	03/09/76	Mirowski et al.			
	HX	3,938,144	02/10/76	Pederson et al.			
	HY	3,922,490	11/25/75	Pettis			
	HZ	3,891,914	06/24/75	Akita			
	IA	3,857,399	12/31/74	Zacouto et al.			
	IB	3,805,795	04/23/74	Denniston et al.			
	IC	3,742,473	06/26/73	Hadden			
	ID	3,735,396	05/22/73	Getchen			
	IE	3,717,858	02/20/73	Hadden			
	IF	3,682,160	08/08/72	Murata et al.			
	IG	3,651,454	03/21/72	Venema et al.			
	IH	3,638,640	02/01/72	Shaw			

**FOREIGN PATENT DOCUMENTS**

		DOCUMENT NUMBER	DATE PUBLIC- ATION	COUNTRY	INT. CLASS	INT. SUB- CLASS	TRANSLATION	
							YES	NO
	II	EP 1 040 848 A1	04.10.00	EP	A61N	1/365		
	IJ	EP 0 235 482	09.09.87	EP	A61L	33/00		
	IK	EPO 0 356 603	18.11.93	EP	A61B	5/04		
	IL	WO 90/04942	17.05.90	WO	A61B	5/0432		
	IM	WO 89/01803	09.03.89	WO	A61N	1/362		

**OTHER DOCUMENTS (Including Author, Title, Date Pertinent Pages, Etc.)**

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